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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/668,865	09/23/2003	Robert D. LoGalbo	CM06218H	3160

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EXAMINER
KARIKARI, KWASI

ART UNIT	PAPER NUMBER
2617	

MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/668,865	LOGALBO ET AL.	
	Examiner	Art Unit	
	Kwasi Karikari	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 October 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4,5,12-15 and 26-35* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4,5,12-15 and 26-35* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 08/27/2007 has been entered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 28 and 31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Applicant uses claimed limitations:

["reducing a beacon interval time of the one or more of the first plurality of beacon intervals following a delayed beacon interval so that the reduced beacon interval time plus the delayed beacon interval time equal an average beacon interval time"] (in claim 28), and

["reducing a beacon interval time of the one or more of the second plurality of beacon intervals following a delayed beacon interval so that the reduced beacon

interval time plus the delayed beacon interval time equal an average beacon interval time"] (in claim 31).

These limitations are not clearly presented in the Specification, thus, hampering one of ordinary skill in the art to clearly interpret the Applicant's claimed language.

For examination purposes, the Examiner would interpret the rejected claimed limitations in the broadest scope of the Applicant's invention. Appropriate corrections are required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 4, 5, 12-15, 24, 25 and 32-35 are rejected under U.S.C. 103(a) as being unpatentable over Lansford et al., (U.S 20030178984), (hereinafter Lansford) in view of Meier (U.S. 20070217385 A1), (hereinafter Meier).

Regarding claim 1, Lansford discloses a method of operation of an access point (= controller, 201,303 or device A, see Par. 0012, 0024 and Figs. 2 & 3) for supporting a plurality of devices (= cell phone 202, cordless phone 203 in Fig. 2; cell phone 302, set Top box 301 in Fig. 3, devices B and C in Fig. 1; and first and second devices in Par.

0012-14. Also see electronic devices in Par. 0002) operating on a first and a second different frequency band (= first and second hopping frequencies, see Pars. 0012-14, 0016 and 0019-20), the method comprising;

providing communication in a first transition beacon interval (block/slot) at the second frequency band by initiating a contention free period at the first frequency (= controller operates at the first hopping frequency with the first device; detection of a second device; and contention-free period; controller cease communication with the first device, see Pars.0012-14 and 0019-20),

switching from the first frequency to the second frequency (= controller operate at the second hopping frequency, see Par. 0014),

communicating with devices (see Pars. 0002 and 0012) operating at the second frequency including (= controller operate at the second hopping frequency, see Par. 0014); and

providing communication in each of a first plurality of beacon intervals (block/slot) following the first transition beacon interval at the second frequency band (first hopping frequency) by:

temporarily ceasing the step of communicating with devices operating at the second frequency to initiate a contention free period at the second frequency (= controller operates at the first hopping frequency with the first device; detection of a second device; and contention-free period; controller cease communication with the first device, see Pars.0012-14 and 0019-20),

switching from the second frequency to the first frequency (= seconding hopping frequency, see Pars. 0012-14, 0019-21 and Fig. 1),

initiating another contention free period at the first frequency (= Par. 0015), ,

switching from the first frequency back to the second frequency (Par. 0015), and communicating with devices operating at the second frequency (= first hopping frequency, see Pars. 0012-14, 0019-21 and Figs. 1 & 4); but fails to discloses that communication with the devices include "**transmitting multicast data and receiving and transmitting distributed coordinated function data and acknowledgements".**

However, Meier teaches transmitting multicast data and receiving and transmitting distributed coordinated function data and acknowledgements (see Pars. 0002, 0004, 0009, 0016-20 and 0034-37).

All of the claimed limitations are known in the combination of Lansford and Meier. Thus, it would therefore have been obvious to one of the ordinary skill in the art to combine the teaching of Meier with the system of Lansford for the benefit of achieving a communication system that can utilizes a multicast transmission method to increase power savings; and the reduction of DTIM beacon rate, resulting in easing of channel congestion (see Pars. 0018-19); and (Anderson's Black Rock Inc. v. Pavement Salvage Co.).

Regarding claim 4, as recited in claim 1, Lansford further discloses the method, wherein initiating a contention free period comprises transmitting a beacon message

(see Pars. 0013-14 and 0039-40).

Regarding claim 5, as recited in claim 1, Lansford further discloses that the method, further comprising, providing communication in a second transition beacon interval (= block/slot) at the first frequency (= second hopping frequency, see Par. 0013-15 and 0019) by:

initiating a contention free period at the second frequency (= controller operates at the second hopping frequency with second device; end of contention free period, see Pars.0015);

switching from the second frequency to the first frequency (= controller operates at first hopping frequency, see Par. 0015);

communicating with devices (See Pars. 0002, and 0012) operating at the first frequency (see Pars. 0012-15 and 0039-40); and

providing communication in each of a second plurality of beacon intervals (=block/slot) following the second transition beacon interval at the first frequency band (see Pars. 0012-15 and Figs. 1 & 4) by:

temporarily ceasing the step of communicating with devices operating at the first frequency to initiate a contention free period at the first frequency (see Pars. 0012-15),

switching from the first frequency to the second frequency (see Pars. 0012-14),

initiating another contention free period at the second frequency (see Pars. 0012-15 and 0039-40),

switching from the second frequency back to the first frequency, and communicating with devices operating at the first frequency (see Par. 0015); but fails to discloses that communication with the devices include "**transmitting multicast data and receiving and transmitting distributed coordinated function data and acknowledgements".**

However, Meier teaches transmitting multicast data and receiving and transmitting distributed coordinated function data and acknowledgements (see Pars. 0002, 0004, 0009, 0016-20 and 0034-37).

All of the claimed limitations are known in the combination of Lansford and Meier. Thus, it would therefore have been obvious to one of the ordinary skill in the art to combine the teaching of Meier with the system of Lansford for the benefit of achieving a communication system that can utilizes a multicast transmission method to increase power savings; and the reduction of DTIM beacon rate, resulting in easing of channel congestion (see Pars. 0018-19); and (Anderson's Black Rock Inc. v. Pavement Salvage Co.).

Regarding claim 12, as recited in claim 1, Lansford further discloses that the method, further comprising, within the first transition beacon interval; and communicating with devices operating at the second frequency by the access point (see Pars. 0012-15 and 0039-40); but fails to teach "initiating a distributed coordinated function mode".

However, Meier teaches initiating a distributed coordinated function mode" (see Pars. 0002, 0004, 0009, 0016-20 and 0034-37).

All of the claimed limitations are known in the combination of Lansford and Meier. Thus, it would therefore have been obvious to one of the ordinary skill in the art to combine the teaching of Meier with the system of Lansford for the benefit of achieving a communication system that can utilizes a multicast transmission method to increase power savings; and the reduction of DTIM beacon rate, resulting in easing of channel congestion (see Pars. 0018-19); and (Anderson's Black Rock Inc. v. Pavement Salvage Co.).

Regarding claim 13, as recited in claim 12, Meier discloses the method, wherein "**initiating the distributed coordinated function mode"** allows devices operating at the second frequency to "**transmit inbound to the access point without having to be polled by the access point"** (see Pars. 0002, 0004, 0009, 0016-20 and 0034-37; whereby DCF protocol is being associated with the "transmit inbound to the access point without having to be polled by the access point).

All of the claimed limitations are known in the combination of Lansford and Meier. Thus, it would therefore have been obvious to one of the ordinary skill in the art to combine the teaching of Meier with the system of Lansford for the benefit of achieving a communication system that can utilizes a multicast transmission method to increase power savings; and the reduction of DTIM beacon rate, resulting in easing of channel congestion (see Pars. 0018-19); and (Anderson's Black Rock Inc. v. Pavement Salvage Co.).

Regarding claim 14, as recited in claim 5, Lansford further discloses that the method further comprising, during the second transition beacon interval; communicating with

devices operating at the first frequency by the access point (see Pars. 0012-15 and 0039-40); but fails to teach "initiating a distributed coordinated function mode".

However, Meier teaches initiating a distributed coordinated function mode" (see Pars. 0002, 0004, 0009, 0016-20 and 0034-37).

All of the claimed limitations are known in the combination Lansford and Meier. Thus, it would therefore have been obvious to one of the ordinary skill in the art to combine the teaching of Meier with the system of Lansford for the benefit of achieving a communication system that can utilizes a multicast transmission method to increase power savings; and the reduction of DTIM beacon rate, resulting in easing of channel congestion (see Pars. 0018-19); and (Anderson's Black Rock Inc. v. Pavement Salvage Co.).

Regarding claim 15, as recited in claim 14, Meier discloses the method, wherein "initiating the **distributed coordinated function mode"** allows devices operating at the first frequency to "**transmit inbound to the access point without having to be polled by the access point"** (see Pars. 0002, 0004, 0009, 0016-20 and 0034-37; whereby DCF protocol is being associated with the "transmit inbound to the access point without having to be polled by the access point).

All of the claimed limitations are known in the combination Lansford and Meier. Thus, it would therefore have been obvious to one of the ordinary skill in the art to combine the teaching of Meier with the system of Lansford for the benefit of achieving a communication system that can utilizes a multicast transmission method to increase

power savings; and the reduction of DTIM beacon rate, resulting in easing of channel congestion (see Pars. 0018-19); and (Anderson's Black Rock Inc. v. Pavement Salvage Co.).

Regarding claim 24, as recited in claim 5, Lansford further discloses that the method further, wherein the access point and the plurality of communication device operate within an 802.11 system (see Pars. 0016 and 0020).

Regarding claim 25, as recited in claim 5, Lansford further discloses that the method, wherein initiating a contention free period comprises transmitting a beacon message (see Pars. 0013-14).

Regarding claim 32, as recited in claim 4, Meier discloses that the method further comprising: receiving a contention free period beacon message by a communication device on the first frequency, wherein the communication device remains associated to the access point and does not initiate a distributed coordinated function mode in response to receiving the contention free period beacon message (see Pars. 0002, 0004, 0009, 0016-20 and 0034-37).

All of the claimed limitations are known in the combination Lansford and Meier. Thus, it would therefore have been obvious to one of the ordinary skill in the art to combine the teaching of Meier with the system of Lansford for the benefit of achieving a communication system that can utilizes a multicast transmission method to increase

power savings; and the reduction of DTIM beacon rate, resulting in easing of channel congestion (see Pars. 0018-19); and (Anderson's Black Rock Inc. v. Pavement Salvage Co.).

Regarding claim 33, as recited in claim 25, Meier discloses that the method further comprising: receiving a contention free period beacon message by a communication device on the second frequency, wherein the communication device remains associated to the access point and does not initiate a distributed coordinated function mode in response to receiving the contention free period beacon message. (see Pars. 0002, 0004, 0009, 0016-20 and 0034-37).

All of the claimed limitations are known in the combination Lansford and Meier. Thus, it would therefore have been obvious to one of the ordinary skill in the art to combine the teaching of Meier with the system of Lansford for the benefit of achieving a communication system that can utilizes a multicast transmission method to increase power savings; and the reduction of DTIM beacon rate, resulting in easing of channel congestion (see Pars. 0018-19); and (Anderson's Black Rock Inc. v. Pavement Salvage Co.).

Regarding claim 34, as recited in claim 5, Meier discloses that the method further comprising: at the beginning of each beacon interval: operating each of the communication devices to: awaken from a power-saving mode, receive multicast data, and return to power saving mode (see Pars. 0002, 0004, 0009, 0016-20, 0034-37 and 0039-44).

All of the claimed limitations are known in the combination Lansford and Meier. Thus, it would therefore have been obvious to one of the ordinary skill in the art to combine the teaching of Meier with the system of Lansford for the benefit of achieving a communication system that can utilizes a multicast transmission method to increase power savings; and the reduction of DTIM beacon rate, resulting in easing of channel congestion (see Pars. 0018-19); and (Anderson's Black Rock Inc. v. Pavement Salvage Co.).

Regarding claim 35, as recited in claim 5, Meier discloses that the method further comprising: at the beginning of each beacon interval: operating each of the communication devices to: awaken from a power-saving mode, receive multicast data, switch operation to a distributed coordinated function mode, and return to power saving mode (see Pars. 0002, 0004, 0009, 0016-20, 0034-37 and 0039-44).

All of the claimed limitations are known in the combination Lansford and Meier. Thus, it would therefore have been obvious to one of the ordinary skill in the art to combine the teaching of Meier with the system of Lansford for the benefit of achieving a communication system that can utilizes a multicast transmission method to increase power savings; and the reduction of DTIM beacon rate, resulting in easing of channel congestion (see Pars. 0018-19); and (Anderson's Black Rock Inc. v. Pavement Salvage Co.).

4. **Claims 26-31 are rejected under U.S.C. 103(a) as being unpatentable over Lansford in view of Meier and further in view of Cervello et al., (U.S. 20020071448) (hereinafter Cervello).**

Regarding claim 26, as recited in claim 1 , the combination of Lansford and Meier fails to disclose that the method further comprising: delaying the signaling of the contention free period beacon based on a completion delay of a distributed coordinated function mode.

However, Cervello teaches "delaying the signaling of the contention free period beacon based on a completion delay of a distributed coordinated function mode" (see Par. 0017 and Figs. 2 & 3).

All of the claimed limitations are known in the combination of Lansford, Meier and Cervello. Thus, it would therefore have been obvious to one of the ordinary skill in the art to combine the teaching of Cervello with the system of Lansford and Meier for the benefit of achieving a communication system that implements network allocation vector and overlapping network allocation vector to eliminate potential collision in a network where basic service set overlap (see Pars. 0023 and 0042); and (Anderson's Black Rock Inc. v. Pavement Salvage Co.).

Regarding claim 27, as recited in claim 1 , the combination of Lansford and Meier fails to disclose that the method further comprising; delaying the signaling of at least one of the contention free period beacons of one or more of the first plurality of beacon intervals based on a completion delay of a distributed coordinated function mode.

However, Cervello teaches "delaying the signaling of the contention free period beacon based on a completion delay of a distributed coordinated function mode" (see Par. 0017 and Figs. 2 & 3).

All of the claimed limitations are known in the combination of Lansford, Meier and Cervello. Thus, it would therefore have been obvious to one of the ordinary skill in the art to combine the teaching of Cervello with the system of Lansford and Meier for the benefit of achieving a communication system that implements network allocation vector and overlapping network allocation vector to eliminate potential collision in a network where basic service set overlap (see Pars. 0023 and 0042); and (Anderson's Black Rock Inc. v. Pavement Salvage Co.).

Regarding claim 28, as recited in claim 27, the combination of Lansford and Meier fails to disclose that the method further comprising: reducing a beacon interval time of the one or more of the first plurality of beacon intervals following a delayed beacon interval so that the reduced beacon interval time plus the delayed beacon interval time equal an average beacon interval time.

However, Cervello teaches "delaying the signaling of the contention free period beacon based on a completion delay of a distributed coordinated function mode" (see Par. 0017 and Figs. 2 & 3).

All of the claimed limitations are known in the combination of Lansford, Meier and Cervello. Thus, it would therefore have been obvious to one of the ordinary skill in the art to combine the teaching of Cervello with the system of Lansford and Meier for the benefit of achieving a communication system that implements network allocation vector and overlapping network allocation vector to eliminate potential collision in a network

where basic service set overlap (see Pars. 0023 and 0042); and (Anderson's Black Rock Inc. v. Pavement Salvage Co.).

Regarding claim 29, as recited in claim 5, the combination of Lansford and Meier fails to disclose that the method further comprising: delaying the signaling of the contention free period beacon based on a completion delay of a distributed coordinated function mode.

However, Cervello teaches "delaying the signaling of the contention free period beacon based on a completion delay of a distributed coordinated function mode" (see Par. 0017 and Figs. 2 & 3).

All of the claimed limitations are known in the combination of Lansford, Meier and Cervello. Thus, it would therefore have been obvious to one of the ordinary skill in the art to combine the teaching of Cervello with the system of Lansford and Meier for the benefit of achieving a communication system that implements network allocation vector and overlapping network allocation vector to eliminate potential collision in a network where basic service set overlap (see Pars. 0023 and 0042); and (Anderson's Black Rock Inc. v. Pavement Salvage Co.).

Regarding claim 30, as recited in claim 5, the combination of Lansford and Meier fails to disclose that the method further comprising: delaying the signaling of at least one of the contention free period beacons of the second plurality of beacon intervals based on a completion delay of a distributed coordinated function mode.

However, Cervello teaches "delaying the signaling of the contention free period beacon based on a completion delay of a distributed coordinated function mode" (see Par. 0017 and Figs. 2 & 3).

All of the claimed limitations are known in the combination of Lansford, Meier and Cervello. Thus, it would therefore have been obvious to one of the ordinary skill in the art to combine the teaching of Cervello with the system of Lansford and Meier for the benefit of achieving a communication system that implements network allocation vector and overlapping network allocation vector to eliminate potential collision in a network where basic service set overlap (see Pars. 0023 and 0042); and (Anderson's Black Rock Inc. v. Pavement Salvage Co.).

Regarding claim 31, as recited in claim 30 , the combination of Lansford and Meier fails to disclose that the method further comprising: reducing a beacon interval time of the one or more of the second plurality of beacon intervals following a delayed beacon interval so that the reduced beacon interval time plus the delayed beacon interval time equal an average beacon interval time.

However, Cervello teaches "delaying the signaling of the contention free period beacon based on a completion delay of a distributed coordinated function mode" (see Par. 0017 and Figs. 2 & 3).

All of the claimed limitations are known in the combination of Lansford, Meier and Cervello. Thus, it would therefore have been obvious to one of the ordinary skill in the art to combine the teaching of Cervello with the system of Lansford and Meier for the

benefit of achieving a communication system that implements network allocation vector and overlapping network allocation vector to eliminate potential collision in a network where basic service set overlap (see Pars. 0023 and 0042); and (Anderson's Black Rock Inc. v. Pavement Salvage Co.).

Conclusion

5. **Examiner's Note**: Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kwasi Karikari whose telephone number is 571-272-8566. The examiner can normally be reached on M-F (8 am - 4pm). If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rafael Pérez-Gutiérrez can be reached on 571-272-7915. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8566. Information regarding the status of an application may be obtained from the Patent Application Information

Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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